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ABSTRACT

Research results are presented from focus groups and telephone surveys concerning the attitudes and opinions of public school educators on the issue of school design, and what educators would want to see in a millennial school design. The study report is divided into two empirical sections plus a conclusion. The first section presents the findings from two focus groups conducted among metropolitan Atlanta educators concerning general school design, schools and their communities, classroom design, common areas, and other design issues. The second section analyzes the results from a telephone survey of educators from seven different metropolitan areas throughout the United States. Survey questions addressed the importance of school design, the teacher's role, rating design elements, time management, and collaboration. Brief summaries of the findings from both study approaches are provided, including summaries from telephone surveys from specific metropolitan areas such as Atlanta, Cleveland, Dallas, Los Angeles, New York, San Francisco, and Seattle. (GR)

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PERCEPTIONS OF EDUCATORS ABOUT SCHOOL DESIGN ISSUES

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SECTION I. INTRODUCTION AND METHODOLOGY

This report presents the findings of a study conducted by Beth Schapiro & Associates for Heery International. The study investigates the attitudes and opinions of public school educators regarding the issue of school design. The report is divided into two empirical sections plus a conclusion. Section II discusses the findings from two focus groups conducted among metropolitan Atlanta educators. Section III analyzes the results from a telephone survey of educators from seven different metropolitan areas throughout the United States. Finally, Section IV concludes the report with generalizations from the findings of both empirical sections.

What follows is a brief description of the methodology used for the focus groups and the telephone survey.

Focus Groups

The first focus group was conducted in Cobb County, Georgia among eleven public school educators from Cobb and north Fulton Counties.¹ The second group was conducted in DeKalb County, Georgia and consisted of nine public school educators from DeKalb County and the city of Atlanta.² Participants were recruited randomly by phone and were assured of their anonymity.

The discussions, which lasted approximately two hours each, were moderated by Beth Schapiro, Ph.D. and observed by representatives of Heery International, Dowling, Langley & Associates, and Beth Schapiro & Associates. Throughout Section II, words in quotation marks are direct quotations from participants.

¹This group consisted of 4 elementary school teachers, 2 middle school teachers, 3 high school teachers, 1 elementary school principal, and 1 middle school assistant principal.

²This group consisted of 2 elementary school teachers, 2 middle school teachers, 2 high school teachers, 1 elementary school principal, 1 middle school principal, and 1 high school principal.

Telephone Survey

The survey included teachers, principals, and assistant principals and was conducted January 10-26, 1998.³ Professional interviewers contacted the respondents by phone and conducted an interview that required approximately ten minutes to complete.

The total sample size is 1,050, including 150 public school educators from each of seven different metropolitan areas: Atlanta, Cleveland, Dallas, Los Angeles, New York, San Francisco, and Seattle. In each area, the sample was drawn from the city and its surrounding suburbs. Within each area, interviews were completed with 120 teachers and 30 principals. Both teachers and principals were selected to produce a balance in each area between elementary, middle, and high school educators. Elementary school educators comprise just over one-half of the sample, while middle and high school educators comprise just under one-quarter each.⁴

Table 1 illustrates the composition of the sample according to metropolitan area, position, grade level, type of community, years in education, and gender. Throughout Section III, bullet points are used to highlight significant differences among these various subgroups. When a city name is used in this section it refers to the entire metropolitan area. *It is important to note the percentages of each demographic category and to keep the relative size of the group in mind when comparisons are made throughout the section. In addition, due to rounding whole numbers, there are instances where tables do not sum to 100% and may have a variance of $\pm 2\%$.*

³For the purpose of analysis, assistant principals are grouped together with principals throughout the report (except in Table 1 which shows the percentages of both principals and assistant principals surveyed). When the term "principals" is used, it thus refers to both principals and assistant principals.

⁴Elementary school teachers are slightly over represented in New York and San Francisco. Throughout the analysis, however, the data are weighted to correct for this over representation (except in Table 1 which shows the subgroup percentages for the unweighted data).

TABLE 1: CHARACTERISTICS OF SAMPLE		
Metropolitan area	Atlanta	14%
	Cleveland	14%
	Dallas	14%
	Los Angeles	14%
	New York	14%
	San Francisco	14%
	Seattle	14%
Position	Teacher	80%
	Principal	15%
	Assistant Principal	5%
Level of school	Elementary	58%
	Middle	21%
	High	21%
Type of community	Urban	49%
	Suburban	46%
	Rural	5%
Years in education	5 or less	13%
	6-10	14%
	11-20	31%
	Over 20	42%
Gender	Female	74%
	Male	26%

SECTION II: FOCUS GROUPS

GENERAL DESIGN ISSUES

To begin each discussion, participants were asked to talk about the general design characteristics of their ideal 21st century school. Unanimously, they believe school design is an important component of education. Teachers and administrators alike recognize that design issues can strongly affect, either positively or negatively, the learning process. In many ways, educators are dissatisfied with their current school buildings - they feel that too often these structures have been designed without taking into account the changing needs of students and teachers. They hope that the school building of the 21st century will enhance the educational experience, creating new opportunities for both educators and students.

Versatility

Again and again, participants say they want a versatile facility that can accommodate a school's changing needs. Most believe that their current school buildings are incapable of adapting to changes in technology, curriculum, and teaching methods.

"It (the school building) needs to be flexible. The spaces there need to be able to accommodate more than one kind of activity. If today you need to use an area as a classroom and next year you have something else to come up, there ought to be some flexibility where you could accommodate whatever the new activity or program is." (DeKalb participant)

The inflexible nature of many current structures restricts the educational options available to teachers and administrators. When computer drops and electrical outlets are few and awkwardly positioned throughout the room, this limits the number of possible classroom arrangements available to teachers. When all classrooms are rectangular, this hinders the ability of teachers to pursue new teaching methods such as interactive learning. Participants want a building that is as dynamic as the changing world of education.

"I have my own classroom, but I only have three outlets and I have four walls...I am pretty stuck with two standard classroom arrangements for my desks and for my materials because of poor planning." (Cobb participant)

Technology

Today's educators are already using technology as an integral part of the learning process and participants recognize that the role of technology in the educational experience will continue to grow as we enter the 21st century. Many are currently using resources such as distance learning to bring a wide variety of information and programming into the classroom. Most believe that in the future, teaching and learning will increasingly center around technology - especially the use of computers. Computers enhance the kind of hands-on learning recommended by today's educators.

Unfortunately, many classrooms are poorly equipped to handle the transition to the Information Age. Some lack functional television monitors necessary for distance learning or the basic wiring necessary for operating computers. Others lack sufficient space for computer workstations. Again, educators insist that classrooms must be adaptable to the changing role of computers in the learning process.

Participants believe that in the years to come, technological innovations will provide new and exciting opportunities for teachers and students. Access to the Internet will open the door to an almost infinite variety of learning resources, allowing teachers to "bring the world into the classroom." Some see students using laptop computers in a setting where traditional textbooks are replaced by software programs. One participant even sees virtual reality in the school of the future, creating an educational experience unlike any available to previous generations.

"I mean we're talking future, virtual reality is where it's at...I'd love to see in the future when I'm teaching...history, I can put them in a theater-type room, dim the lights - they are in Gettysburg. They'll sense it and touch it and that's the whole name of the game." (DeKalb participant)

Comfort

Physically uncomfortable students are not effective learners. Future schools need to provide a comfortable environment for interactive learning. Furniture in classrooms and media centers should emphasize comfort - "soft and comfy and cushy places instead of those hard round tables and those hard plastic chairs." Temperature is also important. Currently the heating and cooling of Cobb County schools is controlled from one central location, allowing teachers no control over the temperature in their classrooms and frequently resulting in uncomfortable learning environments.

Many schools today are uncomfortable due to overcrowding. Too many students are crammed into a single classroom or temporary trailers are erected to handle the increased demand for space - hardly ideal learning environments. Designers must consider the projected population of an area and plan with expansion in mind. Otherwise, schools are forced to accommodate growing student bodies by improvising haphazard layouts and building temporary classrooms on space intended for recreational use. If a facility is going to serve the educational needs of a community over the long-run, it must be adaptable to the community's growth and development.

Lighting

Educators recognize that lighting can have a profound effect on a learning environment. Overwhelmingly, they want more windows, and more natural light generally, incorporated into the design of their schools. Most teachers want more windows in their classrooms (which would also improve ventilation) and most respond positively to the idea of an atrium somewhere in the school that could serve as a gathering place for students and educators. Flourescent lighting is less popular - it is "the worst thing in terms of leaming," according to one DeKalb teacher. Once more, educators stress the importance of versatility - fewer electrical outlets in the classroom means fewer lighting options available to teachers.

Noise

Many participants stress that school buildings should be designed to reduce disruptive noise. Sound from neighboring classrooms, hallway lockers, and noisy heating and air conditioning systems frequently disturbs teachers and students, making it difficult to learn. Building materials should lessen noise and encourage a quiet learning environment. Several past innovations, such as the open classroom, have increased the amount of noise teachers have had to contend with - educators warn that future designs must deal more effectively with this problem.

Sanitation

Educators want school design to accommodate basic sanitation needs. For instance, they realize the importance of hand washing for preventing the spread of germs and disease. Yet, many classrooms are not equipped with a sink and many teachers face logistical nightmares trying to get their students' hands washed before lunch. Participants want a sink in every classroom and perhaps large circular sinks for communal hand washing before meals. Similarly, they want a bathroom in every classroom - they believe this will encourage students to keep their bathrooms cleaner. This would have the additional benefit of freeing up the time and energy teachers now spend keeping track of students who leave class to use the restroom.

SCHOOLS AND THEIR COMMUNITIES

Participants evince a variety of perspectives on the proper relationship between schools and their communities. Most see an increasing amount of interaction between school and community in the years to come, but some remain skeptical of the relationship. There is frequently a divide between urban and suburban educators on this issue, as Cobb and north Fulton County educators are generally more willing than their DeKalb and city of Atlanta counterparts to entertain ideas about greater community involvement.

School Personality and Community Values

Participants believe a school should have a "bright," "cheerful," and "welcoming" personality. It should be a friendly place that invites both students and members of the community to feel at home. The appearance and design of a building should vary according to grade level - the personality of an elementary school will differ from the personality of a

high school. Regardless of grade level however, the school building should be a place that students, educators, and community members alike can take pride in.

"I think it (the school building) should be bright and cheerful and should look like it's designed for the population that it's serving. If it's an elementary school, it should be bright colors, not the basic harvest gold, the gun-metal grey that they've either got a really great discount at the paint store for...or some adult has picked these out." (DeKalb participant)

"Well, I teach in the oldest school in Cobb County. Our community is very, very old and rundown and I would hate to think that our school was like our community." (Cobb participant)

Most participants say a school should, and almost certainly will, reflect a community's values. However, there are limits to the degree to which schools should reflect the neighborhoods that surround them. Some metro area schools

are located in neighborhoods that are plagued by crime and poverty. In such instances the school should serve as a symbol of what the neighborhood can achieve rather than as a reflection of its current condition.

Safety

Safety is a major concern of educators, and participants stress that any plan for interaction between a school and its community should take into consideration security issues. DeKalb County educators in particular, worry about protecting children in an environment that is all too often characterized by danger. Thus, school design should address the security challenges, such as access to school grounds and buildings, faced by many campuses. Schools should welcome their surrounding communities, but first and foremost, they must protect their children from harm.

Community Institutions and Organizations

Participants offer a variety of views on the optimal relationships between schools and other community institutions and organizations. Most support the idea of stronger relationships with local businesses, as well as local colleges and universities. Reactions are mixed, however, regarding actually sharing space with other public institutions, such as libraries, museums, and zoos.

Many do believe schools should function as "community centers," used by local citizens for a variety of activities. Schools could provide day care, pre-K, and after-school care services. Rooms could be reserved for adult education classes on nights and weekends. Many also suggest locating health care clinics and social service agencies on campus, although some believe this could bring in too many outsiders, once again raising fears about security.

CLASSROOMS

Today's classrooms are ill-suited for the demands of the coming century. Educators believe new and innovative designs are needed to accommodate changing technologies and improved teaching methods. They envision the ideal 21st century classroom as a dynamic, self-contained unit, where interactive learning takes place in a comfortable, spacious environment.

Teacher as Facilitator

In recent years, there has been a great deal of new thinking about the role of teachers in the classroom - most now believe teachers should "facilitate" rather than lecture. This is based on two ideas about the learning process. First, today's

"You want to guide the kids. You want to have the kid understand how to get the information. You want them to get the information and that way they are learning." (Cobb participant)

children receive so many powerful stimuli from television, video games, and other sources, they have limited attention spans and little patience for dry forms of communication such as the lecture. Second, new research (actually based on rather old theories) suggests that the more active the learning process, the more likely students are to acquire and retain knowledge. Thus, instead of delivering extended lectures on a particular subject, teachers should facilitate a series of interactive learning assignments that encourage hands-on, active, and involved learning on the part of the student. Unfortunately, while thinking about education has changed, school buildings have not. Most teachers still use rooms designed to accommodate the lecture model of teaching rather than the facilitator model preferred by today's educators. What is needed, participants stress, is a flexible classroom, designed for multiple purposes, where teachers, students, and ideas can move about the room freely and efficiently.

Self-Containment

"I think each classroom should be able to stand alone." (Cobb participant)

Educators believe classrooms should be self-contained units. Instead of turning elsewhere, teachers should be able to access water, storage, and communication resources within their own classrooms. All classrooms should be equipped with bathrooms, water fountains, and sinks with both hot and cold running water. There should be adequate room for storage, instead of cramming closets full and having to lay heavy winter coats on the floor due to a lack of space. Teachers should be able to communicate with the outside world without having to leave their classrooms. Improved systems for communicating with the main office should be available - "teachers hate the 'squawk box' worse than anything," remarks one Cobb participant. In addition, the presence of a phone in the classroom could save teachers valuable time and provide more opportunities for parent-teacher interaction.

Computers in the Classroom

Computers will be a focal point of 21st century classrooms. Most educators envision themselves using both computer labs and computers in their own classrooms as they continue to incorporate more and more interactive learning into their lesson plans. Some believe classrooms should house "production areas" that include printers and the necessary equipment to produce a finished product, such as a slide or media presentation. Proper wiring will be crucial to the success of any computerized classroom, although some participants see a future in which wireless technology makes this less of a concern.

Spaciousness

Too often, today's students are forced to learn in crowded, uncomfortable classrooms. Teachers emphasize that they need adequate space in order to create a proper learning environment. Larger classrooms could offer a more pleasant setting and provide teachers with more options regarding how to use their classroom space. However, one participant notes that some smaller classrooms are also needed for specific purposes such as special education classes with only a few students.

Classroom Themes and Ownership

Most participants believe classrooms should be designed with particular subjects in mind - the requirements of a science classroom are not the same as the requirements of an English classroom. Participants not only believe that just one subject should be taught in each classroom, they also believe that only one teacher should teach in each classroom. A few mention the possibility of giving teachers their own offices and moving them about from room to room, but most emphasize the importance of taking pride in and exercising ownership of their own classroom. This allows teachers to shape a room according to their own personalities and teaching goals.

"Teachers need a home. They don't need to move from classroom to classroom. Once you start moving teachers from place to place, nobody takes ownership of that space." (DeKalb participant)

COMMON AREAS

Educators believe that there is a need for greater interaction among students and teachers and that school design should take this into account. Many of the common areas at their current schools were poorly planned. Future designs should include areas in which students and teachers can come together for both formal school events and informal socializing.

Cafeterias and Auditoriums

Participants universally dislike the "cafetorium." Cafeterias and auditoriums have different purposes and should be separate facilities. The quality of dramatic presentations is hurt when they are performed in the school cafeteria. Meanwhile, rehearsals for plays and

"Don't make them the same room. To me, if you are doing a dramatic presentation, it takes away from that presentation if you're in the lunch room. It just doesn't have the same feel." (Cobb participant)

preparations for assemblies frequently push students out of the cafeteria and back to their classrooms for bag lunches. Both types of facilities need to be larger than they usually are now. Auditoriums should be large enough for the entire student body to convene at the same time. Cafeterias, too, should be larger, and many believe they should be designed to mimic the popular "food court" model used in shopping malls.

Recreational Areas

Recreational areas, including both indoor and outdoor areas, should be spacious and well-equipped. Gymnasiums should have the latest equipment, as well as adequate storage areas and dressing rooms. Outside recreational areas should also be spacious - something that is often threatened by school overcrowding. One DeKalb administrator reports that the need for temporary classrooms at his school has cut in half the amount of playground space available.

Displaying Awards

Most educators agree that schools need places to display awards, student projects, artwork, and other objects that can boost the morale of both students and teachers. It is important to have a nice display area in a central location for these items - perhaps secure, glass display cases or a "walk of fame" that showcases the school's achievements.

Interaction Among Educators and Among Students

Overwhelmingly, participants believe educators should have more places to interact on campus. Such interaction provides opportunities not only for socializing, but also for an exchange of ideas about education as well. Teacher lounges should be larger and nicer. Educators need larger conference areas for faculty meetings and for meeting with parents.

Students, too, need more and better places to interact on campus. Educators suggest more atriums, courtyards, and lounges for students. Outdoor benches, classrooms, and study halls are also popular ideas - educators believe that children enjoy school more and are more productive when they can spend at least part of the day outdoors.

OTHER DESIGN ISSUES

Time Management

Teachers believe that they lose a great deal of time unnecessarily during the average school day. For instance, elementary teachers lose a lot of time moving from room to room - taking children to the gym for P.E. or to the auditorium for music class takes time. Most teachers feel they could save time if there were a

"resource room" close by, with access to a copier and other pieces of necessary office equipment. Many of the items associated with self-containment, such as restrooms in every classroom, could make teachers much more efficient. Having greater communication resources in the classroom, such as phones and computer links to the main office, would mean much less time spent by teachers and students walking back and forth between their classroom and the office - an activity that can consume a large portion of their day.

*"I know I spend most of my time going to the office...In fact, one of the teachers put on one of those pedometers to see how many miles she walked a day and she said she walked about three miles a day just going back and forth."
(Cobb participant)*

Hallways

There is a consensus that hallways should be wider and shorter. Lockers should not be placed in congested hallway areas and every student should have his or her own spacious locker. Several participants suggest placing a school store off one of the school's hallways, providing a convenient place for students to purchase supplies.

Facility Management

*"I think you get better service if you privatize it...I think you would get a better sampling of people. You could probably get work done faster."
(DeKalb participant)*

Participants are nearly unanimous in their support of private management for school facilities. All too often under the present system, educators are forced to contend with layers of bureaucracy and with unresponsive maintenance personnel when facility problems arise. They believe that a private management system would provide accountability. One dissenting voice opposes private management, suggesting it would lead to less "ownership in the facility" and less continuity in service personnel, but even she admits the current system is seriously flawed.

Safety

Educators emphasize that buildings must be designed to enhance security. Schools need fewer "dead spaces" - places often in stairwells or around restrooms where persons are difficult to see. Stairwells, hallways, and buildings in general should be open and designed so that persons within these areas are easily within view of one another. Cameras placed throughout the facility might also make students and teachers feel more secure.

Construction and Collaboration

Participants strongly believe that school design and construction could be greatly improved if architects, engineers, and builders worked more closely with educators throughout the process. This is seldom the case now. Instead, educators

are rarely consulted during the design phase and rarely informed during the construction phase. They feel that the construction of school buildings could actually present opportunities for learning and would greatly appreciate a presentation informing both students and educators about the design plan and construction process. They would also appreciate projects being completed on time - again this is the exception rather than the norm. In general, educators believe that their input (and the input of students as well) could add to the quality and utility of school facilities. Most seemed to enjoy participating in the focus groups and would welcome similar opportunities in the future to draw on their experience and to discuss their ideas about school design and improving education.

"They've (designers) got to talk to the teachers, the people who are going to be in there on a daily basis - and even get some students." (Cobb County participant)

SUMMARY

Educators recognize that design is an important component of educational success. Many believe their current facilities restrict, rather than enhance, their ability to teach effectively and they hope future school designs will take into account both their needs and the needs of students. The ideal 21st century school is a comfortable, dynamic facility that provides new opportunities for facilitated, interactive learning. These focus groups demonstrate that educators are open to and excited about taking an active role in the design of these new facilities.

An analysis of these two discussions leads to several conclusions about educators and school design.

1. Educators want a versatile, adaptable school.

Educators want a dynamic school capable of adapting to changing ideas about teaching and education.

2. Technology will be a centerpiece of future schools.

Computers and distance learning already play a significant role in many of today's classrooms. Most educators believe the role of technology will only grow in the years to come, requiring adequately equipped, wired classrooms and computer labs designed to encourage the kind of interactive learning made possible by innovative technology.

3. Educators recognize the importance of a pleasant learning environment.

Years of experience have taught them that students learn more effectively in comfortable, well-lit, quiet, and clean environments. Learning suffers when rooms are too crowded and when students and teachers are uncomfortable.

4. Many educators believe schools should have more interaction with the larger community, but some are concerned about safety issues.

Most feel that schools can benefit from stronger relationships with local businesses, as well as colleges and universities. And many believe schools should become community centers, housing a variety of services and activities for local citizens. However some educators, and especially those from DeKalb County and the city of Atlanta, fear that too much interaction with the community could pose security risks. In general, urban educators are more concerned about safety. Many work in neighborhoods plagued by crime and poverty and they repeatedly emphasize the importance of protecting children from the dangers that surround them.

5. **Teachers are now facilitators rather than lecturers, and classroom design should reflect this change.**

Teaching methods have changed, but classrooms have remained the same. Schools need classrooms designed for the facilitator model of learning - an interactive approach that stresses hands-on learning.

6. **Classrooms should be self-contained.**

Restrooms, storage, and communication resources should be available in every classroom. Too often, time and energy are wasted and opportunities are lost because teachers and students must leave the classroom to access necessary resources.

7. **Cafeterias and auditoriums have different purposes and should be separate facilities.**

The cafetorium is universally unpopular. Schools should have both an auditorium and a cafeteria, with the auditorium large enough to accommodate the entire student body.

8. **More places are needed for interaction among educators and students.**

Interaction among educators can provide a welcome opportunity for exchanging ideas and socializing. Students, too, can benefit from spaces designed to encourage interaction among themselves and provide a break from the normal school day.

9. **Educators overwhelmingly support private management of school facilities.**

They have tired of bureaucratic tangles and unresponsive service. Educators believe private management would encourage efficiency and accountability.

10. **Designers should collaborate with educators.**

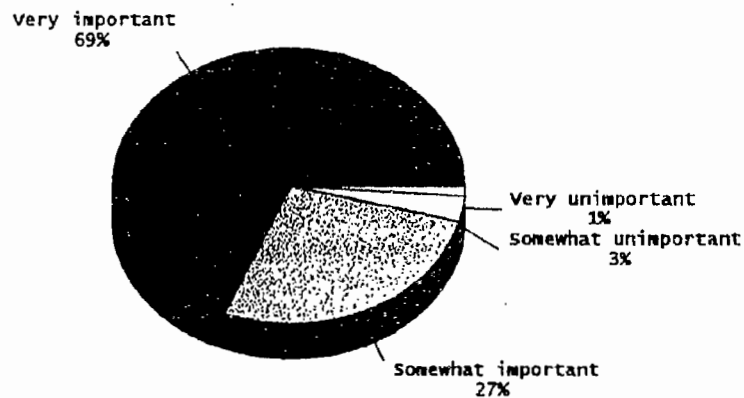
Educators strongly believe they can contribute useful ideas to school design projects. They feel that they should be involved in the planning and construction phases and that both designers and educators can profit from a closer relationship.

SECTION III. TELEPHONE SURVEY

IMPORTANCE OF SCHOOL DESIGN

Overwhelmingly, educators believe school design is an important component of a good learning environment. As Figure 1 indicates, 96% consider school design important and over two-thirds (69%) believe it is very important.

FIGURE 1: THE IMPORTANCE OF SCHOOL DESIGN



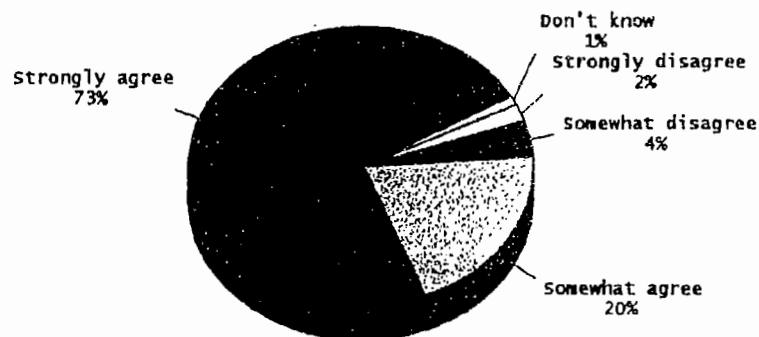
"How important do you think school design is for creating a good learning environment?"

- ◆ New York educators (81%), principals (80%), and Atlanta educators (75%) are especially likely to consider school design very important.

THE ROLE OF TEACHERS

An overwhelming majority of educators believe that the teacher's role in the classroom has changed in recent years. Nearly all respondents (93%) agree that teachers are no longer considered classroom lecturers - instead, they are facilitators who encourage hands-on, interactive learning.

FIGURE 2: THE CHANGING ROLE OF TEACHERS



"The teacher's role in the classroom has changed in recent years - instead of being classroom lecturers, now teachers are considered facilitators who encourage hands-on learning."

- ◆ Principals (85%) and Atlanta educators (79%) are particularly likely to agree strongly that the teacher's role in the classroom has changed.

RATING DESIGN ELEMENTS

Respondents were read a list of school design elements and asked to rate each one on a scale of 1 to 10, where 1 through 3 mean something is unimportant, 4 through 7 mean something is somewhat important, and 8 through 10 mean something is extremely important. The results are presented in Table 2. Safety elements top the list - educators consider security the most fundamental aspect of school design. Many also emphasize the importance of having flexible classrooms and classrooms designed to encourage interactive learning. Nine out of the ten elements are considered extremely important by at least one-half of those surveyed.

TABLE 2: RATING SCHOOL DESIGN ELEMENTS					
Element	Average score	Extremely important	Somewhat important	Not important	Don't know
Safety and security elements	9.5	96%	4%	1%	—
Classrooms that are flexible and adaptable to changing technologies and teaching methods	8.9	88%	12%	0%	—
Classrooms which are designed to encourage interactive learning	8.7	84%	15%	1%	1%
Having a separate auditorium and a separate cafeteria	8.0	67%	27%	5%	—
Plenty of windows and natural light throughout the school and in classrooms	8.0	66%	31%	3%	—
Adequate space for teacher interaction and parent-teacher meetings	7.7	62%	33%	4%	—
Places in the school for students to interact outside the classroom	7.6	59%	38%	2%	1%
Centrally located display areas for student art and awards	7.4	53%	44%	3%	—
Atriums in the school that can be used as science labs	7.2	50%	42%	7%	1%
Having pods to encourage collaboration among students	6.8	42%	46%	9%	3%

- ◆ Over 90% of all subgroups consider safety and security extremely important.
- ◆ Over 80% of all subgroups rate flexible classrooms and classrooms designed for interactive learning as extremely important.
- ◆ Having a separate auditorium and a separate cafeteria is especially important to New York (79% extremely important), Dallas (76%), urban (76%), and middle school educators (75%).
- ◆ San Francisco educators are particularly likely to stress the importance of windows and natural light (74% extremely important).
- ◆ Adequate space for teacher interaction and parent-teacher meetings is most important to principals (77% extremely important) and New York educators (71%).
- ◆ San Francisco educators (69% extremely important) and those who have been in education for 5 years or less (67%) are the subgroups most likely to consider places for student interaction extremely important.
- ◆ Display areas for student art and awards are especially important to New York educators (68% extremely important) and principals (61%).
- ◆ Atriums are most popular among New York educators (59% extremely important).
- ◆ Principals (51% extremely important) and middle school educators (50%) are the only subgroups in which at least one-half consider pods extremely important.

TIME MANAGEMENT

Respondents were read a list of four non-teaching related tasks that take away time from the average school day and were asked to rank each one on a scale from 1 to 4, with 1 being the most time consuming and 4 the least time consuming.⁵ As Table 3 shows, leaving the classroom to make copies is ranked by a plurality of respondents as the most time consuming of the four tasks. However, as Table 3 also indicates, many volunteer that these tasks are "not applicable" to their particular circumstances. Respondents were also asked to estimate the percentage of an average school day spent on the task they rate as the most time consuming. On average, they estimate that 6-8% of the day is consumed by the task they rate as number one.

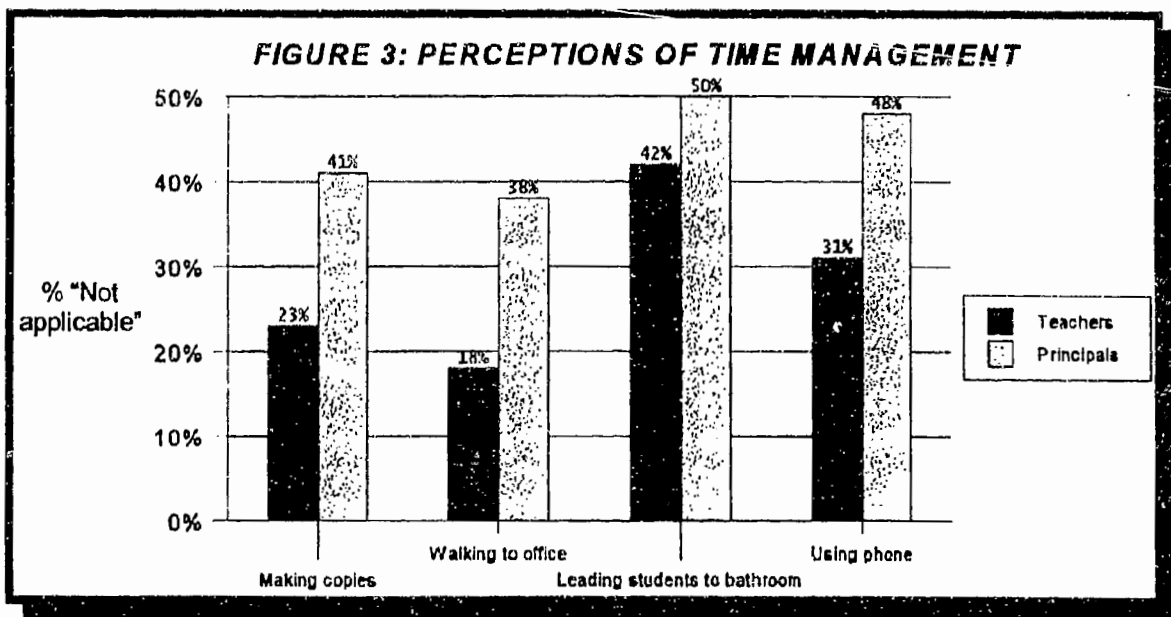
TABLE 3: TIME MANAGEMENT AND NON-TEACHING RELATED TASKS							
Task	% Ranking				Not applicable	Don't know	% of Day ⁶
	1 st	2 nd	3 rd	4 th			
Leaving the classroom to make copies	31%	23%	12%	5%	27%	2%	7%
Walking to and from the office to get or file information	21%	27%	19%	8%	22%	2%	6%
Leading students to and from the bathroom	18%	7%	5%	23%	44%	3%	8%
Leaving the classroom to use the phone	11%	14%	25%	13%	34%	3%	6%

- ◆ Administrative tasks are clearly the most time-consuming. Over one-half (54%) rank leaving the classroom to make copies as either number one or two and just under one-half (48%) rank walking to and from the office to get or file information as number one or two.
- ◆ Seattle educators (49% rank as number one), San Francisco educators (40%), high school educators (38%), and those with 5 years or less of experience (37%) are particularly likely to rate leaving the classroom to make copies as the most time consuming of the four tasks.

⁵Teachers were asked to rank four tasks that take away some of *their* time, while principals were asked to rank four tasks that take away *their teachers'* time. Both groups, however, were read the same four tasks.

⁶Estimated percentage of an average school day spent on a given task by educators who ranked it as the most time consuming.

- ♦ Walking to and from the office is ranked number one most often by middle school (27% rank as number one) and Los Angeles educators (27%).
- ♦ Atlanta (31% rank as number one), Dallas (31%), and elementary school educators (29%) are especially likely to rate leading students to and from the bathroom as the most time consuming task. Majorities of high school (68% not applicable), San Francisco (61%), male (56%), Seattle (55%), middle school (55%), and New York (53%) educators, as well as one-half (50%) of principals, volunteer that this particular task is not applicable to their teaching situation.
- ♦ Leaving the classroom to use the phone is ranked number one most often by New York educators (18%).
- ♦ Principals are consistently more likely than teachers to suggest that these tasks are not applicable for teachers at their schools. Figure 3 illustrates this discrepancy between principal and teacher perceptions.



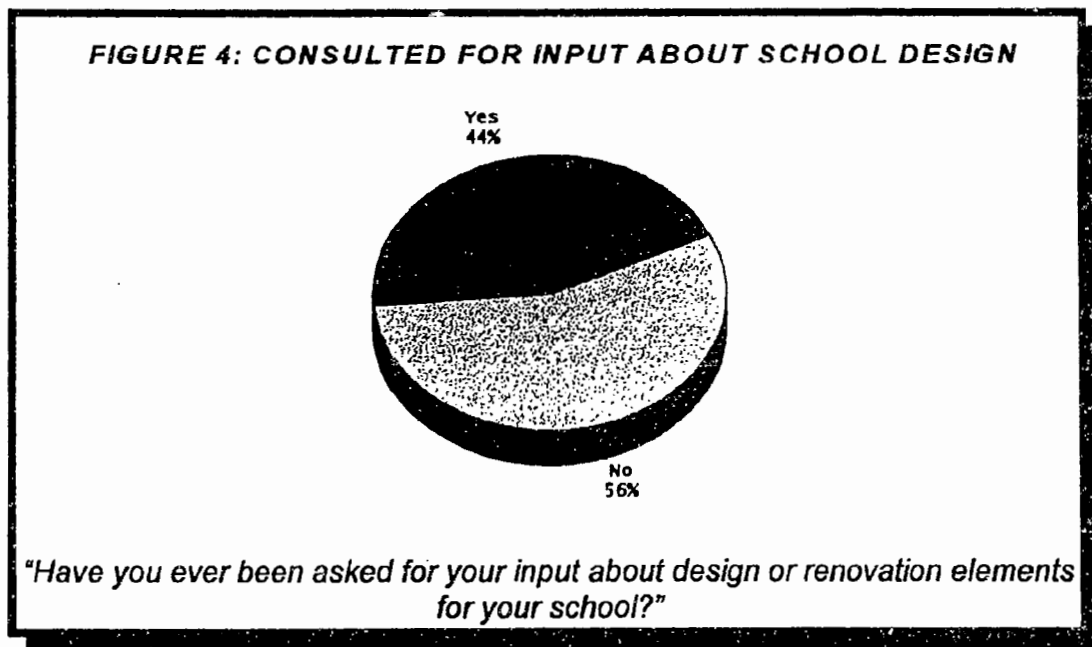
COLLABORATION

Several questions were asked to examine opinions regarding collaboration between educators and school facility designers. Results indicate that educators believe more interaction between themselves and designers would be useful and that they are willing to devote some of their limited time to the collaboration process.

Input From Educators

Respondents were asked whether they think the design of school facilities could be improved if architects and engineers received input from educators about designing the best and most adaptable learning environments. Almost unanimously (99%), respondents believe school design could be improved by collaboration between educators and designers.

However, most (56%) have never been asked for their input regarding design or renovation elements at their school.

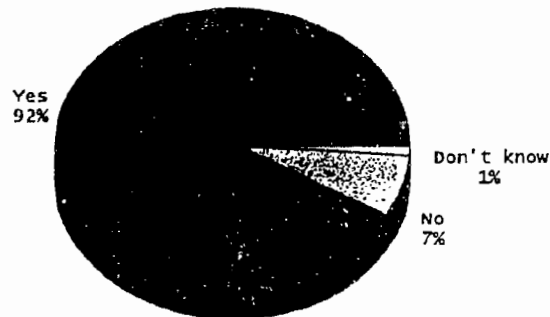


- ◆ Principals (70% yes), as well as Seattle (61%) and San Francisco (59%) educators are more likely than others to have been consulted about school design projects. Those with 5 years or less of experience (76% no), New York educators (70%), Atlanta educators (65%), urban educators (63%), and teachers (62%) are the subgroups most likely to have never been asked for their input.

Advisory Committees

Overwhelmingly, educators report that, if their school had a design and construction project, they would be willing to serve on an advisory committee that works with the firm in charge of the project.

FIGURE 5: SERVING ON AN ADVISORY COMMITTEE



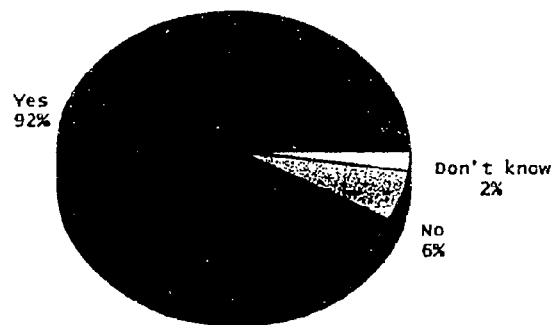
"If your school had a design and construction project, would you be willing to serve on an advisory committee that worked with the firm in charge of the project?"

Those who would be willing to serve in such a capacity were then asked how many hours per week they would be willing to devote to such a committee. On average, they would be willing to devote 3.6 hours per week. The average for teachers is 3.3 hours, while for principals it is 4.9 hours. Forty-seven percent (47%) of the sample would devote 1 or 2 hours to the committee, 41% would devote between 3 and 5 hours, and 12% would give more than 5 hours (26% of principals would give more than 5 hours).

Newsletters and Updates

Ninety-two percent (92%) believe a newsletter for teachers and parents published by the firm in charge of a school design project would be useful.

FIGURE 6: USEFULNESS OF A NEWSLETTER

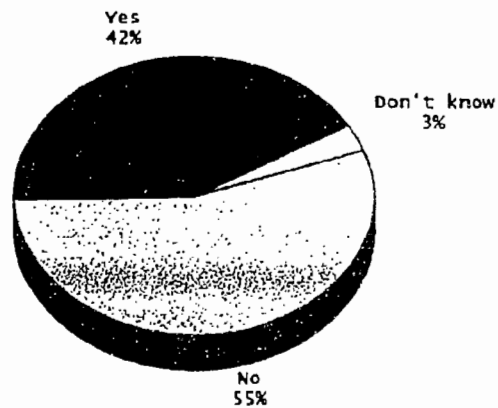


"If a firm in charge of a renovation or new building project at your school publishes a newsletter for teachers and parents with information about the project, would you find this useful?"

Those who believe a newsletter would be useful were then asked whether it should be a weekly, monthly, or quarterly newsletter. Most (54%) believe a monthly newsletter would be most beneficial, 35% favor a quarterly newsletter, and 7% endorse the idea of a weekly publication. Two percent (2%) offer some other frequency and 2% do not know.

All respondents were also asked about the utility of daily updates. A majority (55%) do not believe these would be beneficial.

FIGURE 7: USEFULNESS OF DAILY UPDATES



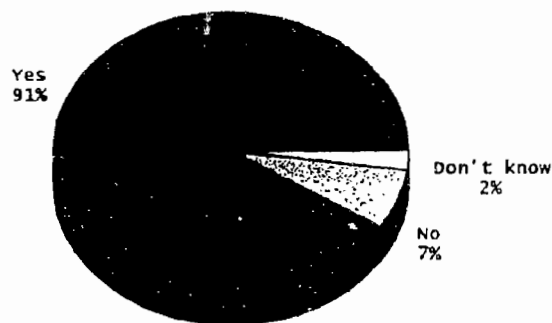
"If the firm publishes daily updates about the project, would you find this useful?"

- ◆ Principals (52% yes) are the subgroup most likely to support the idea of a daily update.

Meetings

Respondents were asked whether regularly scheduled meetings between teachers, the school principal, and representatives of the firm in charge of a design project would be useful. Overwhelmingly, educators feel these meetings would be helpful.

FIGURE 8: USEFULNESS OF MEETINGS



"Would regular meetings between teachers, the school principal, and representatives of the firm be useful?"

Those who believe such meetings would be useful were then asked whether they should be held on a weekly, monthly, or quarterly basis. A solid majority (58%) think they should be held on a monthly basis, 18% favor quarterly, and 17% suggest weekly. Five percent (5%) offer another frequency and 3% have no opinion.

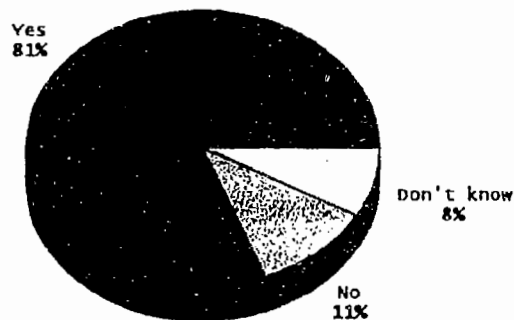
OTHER DESIGN ISSUES

The survey addressed a variety of other issues, including using design and construction as an educational tool, using schools as community centers, the location of computers, whether school buildings should be single- or multi-story structures, and whether school facilities should be publicly or privately managed.

Design and Construction as an Educational Tool

When asked whether they would like for the design and construction of school facilities to be used as an educational tool, an overwhelming majority (81%) of educators say they would support using these projects for educational purposes.

FIGURE 9: DESIGN AS AN EDUCATIONAL TOOL

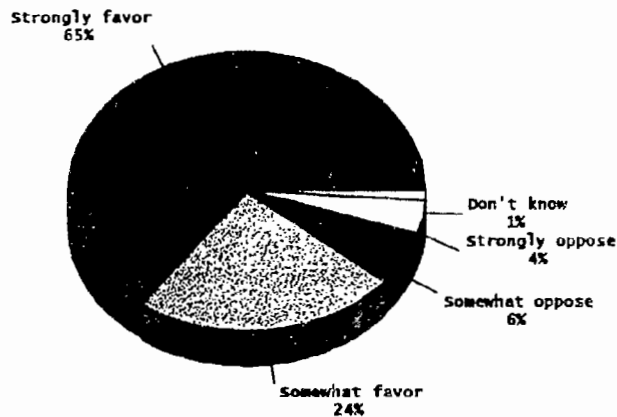


"Would you like for the design and construction of school facilities to be used as an educational tool?"

Schools as Community Centers

Respondents were told that some schools are now functioning as year-round community centers, housing social service agencies and providing space for adult learning classes and community activities. They were then asked whether they generally favor or oppose allowing schools to have this kind of interaction with their communities. Eighty-nine percent (89%) support the idea.

FIGURE 10: SCHOOLS AS COMMUNITY CENTERS



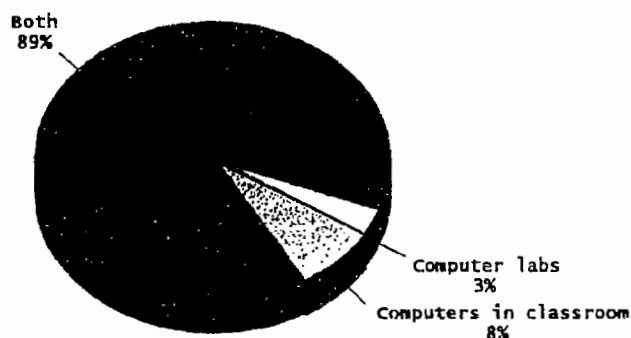
"Some schools also function as year-round community centers, housing social service agencies and providing space for adult learning classes and community activities. Do you generally favor or oppose schools having this kind of interaction with their communities?"

- ◆ Using schools as community centers is most popular among Seattle educators (77%) and principals (74%).

Computer Labs and Computers in the Classroom

There is widespread agreement that schools should have both computers in the classroom and computer labs separate from the classroom. Eighty-nine percent (89%) favor having access to computers in more than one location.

FIGURE 11: LOCATION OF COMPUTERS

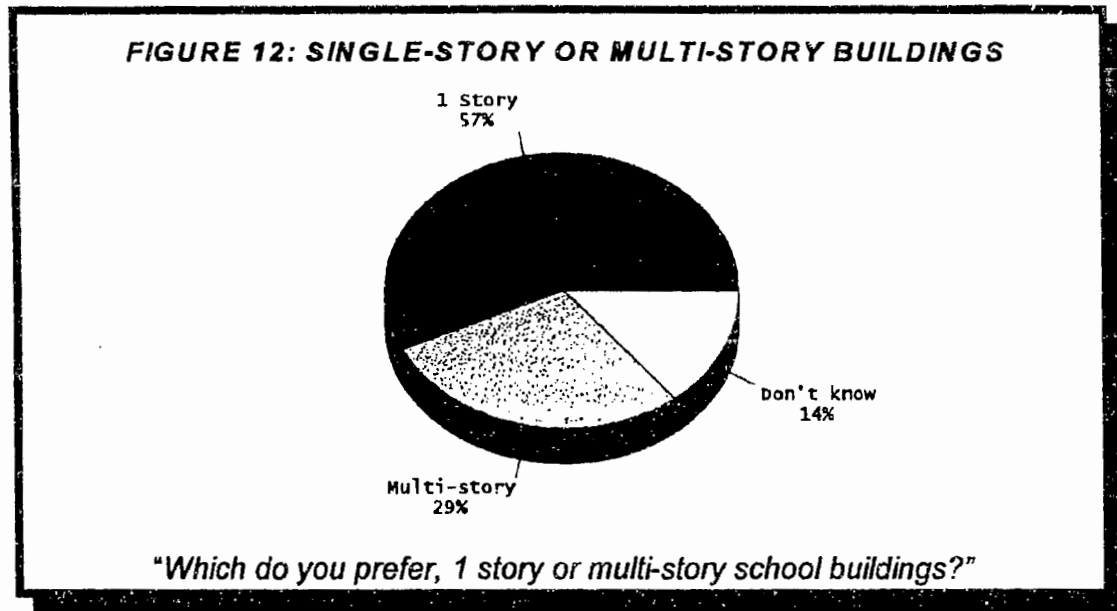


"Do you think schools should have computers in the classroom, computer labs separate from the classroom, or both?"

- ◆ Over 80% of all subgroups think computers should be both in the classroom and in separate computer labs.

Single-Story Versus Multi-Story School Buildings

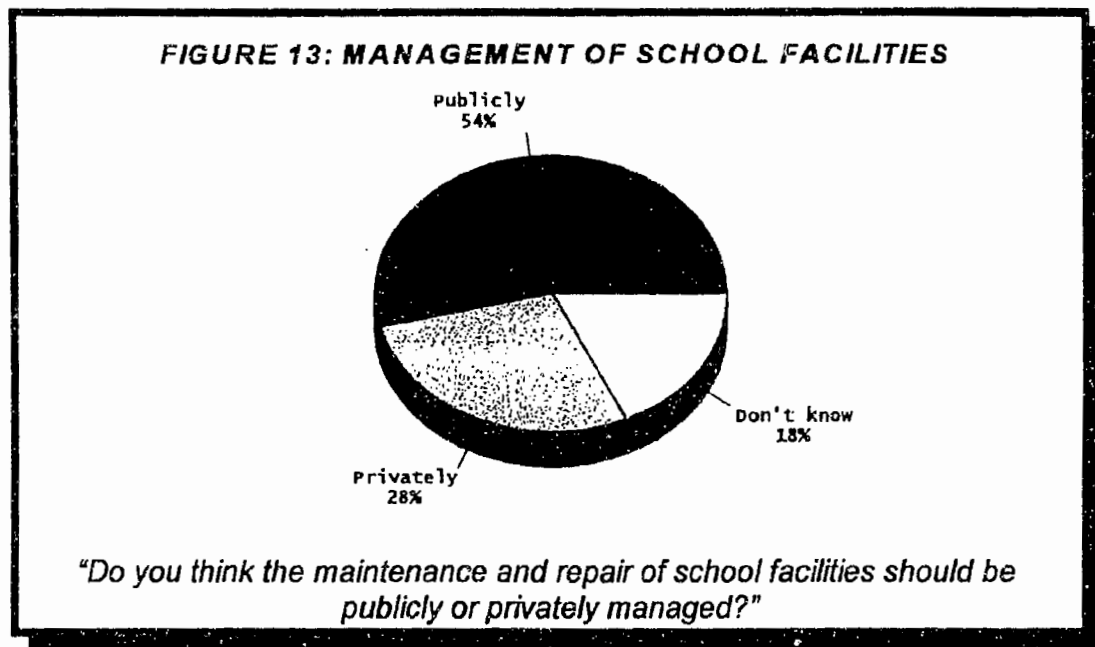
Most (57%) educators prefer single-story buildings, although nearly one-third (29%) say they like multi-story structures.



- ◆ Single-story buildings are most popular among Los Angeles (78%), Atlanta (68%), San Francisco (67%), elementary school (65%), and suburban (64%) educators. Meanwhile, multi-story structures are most popular among New York (53%), high school (42%), Dallas (41%), and urban (37%) educators.

Public Versus Private Management

Most (54%) of those surveyed think the maintenance and repair of school facilities should be publicly managed, although a significant minority (28%) support private management.



- ◆ Those with 5 years or less of experience (63%) and Seattle educators (61%) are the strongest advocates of public management. Support for private management is relatively constant across subgroups.

SUMMARY

The results of this telephone survey lead to several conclusions about the opinions of educators generally, as well as specific subgroups of educators. What follows is a brief summary of the findings, first for the entire sample, next for teachers and principals, then for different educational levels, and finally for each metropolitan area.

Overall Findings

The survey results lead to several generalizations regarding the opinions of education professionals.

1. Educators recognize the importance of school design.

Across the county, educators believe that design plays an important role in creating a good learning environment.

2. Teachers are now facilitators rather than lecturers.

There is widespread agreement that the classroom role of teachers has changed in recent years. Today's teachers encourage learning through active, hands-on methods.

3. Security, flexibility, and interactive learning top the list of desired design elements.

Educators want safe, flexible environments designed to accommodate interactive learning.

4. Non-teaching related tasks consume significant portions of the school day for many teachers.

Tasks such as leaving the classroom to make copies and walking to the office for files or information often take away time from teaching.

5. More collaboration between architects, engineers, and educators could improve school design.

Educators believe working together could be beneficial and they are willing to devote time to these collaborative efforts. They would also like to be informed about school design projects through newsletters and meetings.

6. Design and construction projects should be used as educational tools.

Overwhelmingly, educators see the teaching potential of these projects.

7. Schools should be used as community centers.

Educators believe schools should become more involved with their communities, by housing social service agencies, providing space for adult learning, and engaging in other community activities.

8. Schools need computers in the classroom and in separate computer labs.

There is solid agreement that computers are needed in both locations.

9. Most educators favor single-story school buildings.

A significant minority, however, prefer multi-story structures.

10. A majority think school facilities should be publicly managed.

Private management, on the other hand, is supported by just over one-quarter of respondents.

Comparing Teachers and Principals

To a large extent, teachers and principals agree on the important role played by school design in creating a good learning environment. There are few sharp differences between teachers and principals on the questions included in the survey. Principals are somewhat more likely to recognize the importance of school design and to agree that the role of teachers in the classroom has changed in recent years. They are also more likely to value certain design features, such as having enough space for teacher-parent meetings, displaying art and awards, using pods for interactive learning, and using schools as community centers.

Principals have more experience with design issues - they are almost twice as likely as teachers to have been asked for their input regarding a school design project. They are also willing to commit even more time than are teachers to working with architects and engineers to improve the design process.

There are significant differences between teachers' and principals' perceptions of time management - teachers are much more likely to believe that non-teaching related tasks consume classroom time that could be spent working with students.

Comparing Different Educational Levels

Widespread agreement regarding school design also characterizes opinion among elementary, middle, and high school educators. Again, there are few significant differences. Elementary school educators prefer single-story buildings by nearly a 3 to 1 margin, while high school educators are almost evenly divided between those who prefer single-story and those who prefer multi-story structures. As might be expected, elementary school teachers spend more time than others leading children to and from the restroom, while high school teachers are much less concerned with this problem. Instead, high school educators lose time leaving the classroom to make copies. Middle school educators, on the other hand, are particularly likely to spend time walking to and from the office to get or file information. Educators from middle schools are also particularly likely to emphasize the importance of two design elements, having separate auditoriums and cafeterias and using pods for interactive learning.

Comparing Types of Communities

There are few significant differences between suburban and urban educators. Those from suburban areas are particularly likely to want single-story school buildings, while their urban counterparts are somewhat more likely than others to prefer multi-story structures. Also, urban educators are especially likely to emphasize the importance of having separate auditoriums and cafeterias.

Metropolitan Areas

The next several pages contain summaries for each metropolitan area. The findings are largely consistent across the different areas, but when important differences do arise, they are addressed in the summaries.

METROPOLITAN ATLANTA AREA

- ◆ The results of our telephone survey indicate that Atlanta educators recognize the importance of school design. Indeed, 99% believe school design is important to creating a good learning environment. They realize that design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve.
- ◆ Overwhelmingly, educators believe that the role of teachers in the classroom has changed in recent years - instead of lecturing, teachers are now facilitators, implementing an interactive, hands-on learning process (a remarkable 92% agree with this assessment, 79% strongly agree).
- ◆ Many Atlanta educators believe that much of the school day is often lost to non-teaching related tasks, such as leading students to and from the restroom, leaving the classroom to make copies, and walking to the office to get or file information.
- ◆ Educators stress that schools must be safe - 98% consider school security an extremely important design element.
- ◆ Classrooms of the future must be flexible and adaptable to changing technologies and teaching methods (89% cite as an extremely important design element) and must be designed to encourage interactive learning (83%).
- ◆ Atlanta educators realize that technology and the development of computer skills are increasingly crucial to education and they strongly feel that computers are needed both in the classroom and in separate computer labs (89% believe computers are needed in both places).
- ◆ They also believe that schools should become more involved in their surrounding communities - 87% support (61% strongly, 26% somewhat) using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities.
- ◆ Almost unanimously, those surveyed believe that collaboration between architects, engineers, and educators can improve the quality of school design (99% agree). However, only 35% have ever been asked for their input about a design or renovation project. Nearly all (93%), if asked, would be willing to serve in an advisory capacity and would be willing to devote an average of 4.1 hours per week to such an endeavor (5.4 for principals, 3.7 for teachers).
- ◆ Eighty-three percent (83%) of respondents favor using design and construction projects as educational tools.

METROPOLITAN CLEVELAND AREA

- ◆ The results of our telephone survey indicate that Cleveland educators recognize the importance of school design. Indeed, 94% believe school design is important to creating a good learning environment. They realize that design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve.
- ◆ Overwhelmingly, educators believe that the role of teachers in the classroom has changed in recent years - instead of lecturing, teachers are now facilitators, implementing an interactive, hands-on learning process (a remarkable 93% agree with this assessment, 73% strongly agree).
- ◆ Many Cleveland educators believe that much of the school day is often lost to non-teaching related tasks, such as leaving the classroom to make copies and leading students to and from the restroom.
- ◆ Educators stress that schools must be safe - 96% consider school security an extremely important design element.
- ◆ Classrooms of the future must be flexible and adaptable to changing technologies and teaching methods (88% cite as an extremely important design element) and must be designed to encourage interactive learning (87%).
- ◆ Cleveland educators realize that technology and the development of computer skills are increasingly crucial to education and they strongly feel that computers are needed both in the classroom and in separate computer labs (89% believe computers are needed in both places).
- ◆ They also believe that schools should become more involved in their surrounding communities - 87% support (70% strongly, 17% somewhat) using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities.
- ◆ Almost unanimously, those surveyed believe that collaboration between architects, engineers, and educators can improve the quality of school design (99% agree). However, only 43% have ever been asked for their input about a design or renovation project. Nearly all (94%), if asked, would be willing to serve in an advisory capacity and would be willing to devote an average of 3.5 hours per week to such an endeavor (4.9 for principals, 3.2 for teachers).
- ◆ Seventy-nine percent (79%) of respondents favor using design and construction as an educational tool.

METROPOLITAN DALLAS AREA

- ◆ The results of our telephone survey indicate that Dallas educators recognize the importance of school design. Indeed, 95% believe school design is important to creating a good learning environment. They realize that design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve.
- ◆ Overwhelmingly, educators believe that the role of teachers in the classroom has changed in recent years - instead of lecturing, teachers are now facilitators, implementing an interactive, hands-on learning process (a remarkable 89% agree with this assessment, 64% strongly agree).
- ◆ Many Dallas educators believe that much of the school day is often lost to non-teaching related tasks, such as leading students to and from the restroom and walking to the office to get or file information.
- ◆ Educators stress that schools must be safe - 99% consider school security an extremely important design element.
- ◆ Classrooms of the future must be flexible and adaptable to changing technologies and teaching methods (91% cite as an extremely important design element) and must be designed to encourage interactive learning (81%).
- ◆ Dallas educators realize that technology and the development of computer skills are increasingly crucial to education and they strongly feel that computers are needed both in the classroom and in separate computer labs (89% believe computers are needed in both places).
- ◆ They also believe that schools should become more involved in their surrounding communities - 86% support (57% strongly, 29% somewhat) using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities.
- ◆ Almost unanimously, those surveyed believe that collaboration between architects, engineers, and educators can improve the quality of school design (99% agree). However, only 42% have ever been asked for their input about a design or renovation project. Nearly all (94%), if asked, would be willing to serve in an advisory capacity and would be willing to devote an average of 4.2 hours per week to such an endeavor (4.6 for principals, 4.1 for teachers).
- ◆ Eighty-five percent (85%) of respondents favor using design and construction as an educational tool.

METROPOLITAN LOS ANGELES AREA

- ◆ The results of our telephone survey indicate that Los Angeles educators recognize the importance of school design. Indeed, 94% believe school design is important to creating a good learning environment. They realize that design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve.
- ◆ Overwhelmingly, educators believe that the role of teachers in the classroom has changed in recent years - instead of lecturing, teachers are now facilitators, implementing an interactive, hands-on learning process (a remarkable 88% agree with this assessment, 65% strongly agree).
- ◆ Many Los Angeles educators believe that much of the school day is often lost to non-teaching related tasks, such as leading students to and from the restroom and walking to the office to get or file information.
- ◆ Educators stress that schools must be safe - 93% consider school security an extremely important design element.
- ◆ Classrooms of the future must be flexible and adaptable to changing technologies and teaching methods (86% cite as an extremely important design element) and must be designed to encourage interactive learning (84%).
- ◆ Los Angeles educators realize that technology and the development of computer skills are increasingly crucial to education and they strongly feel that computers are needed both in the classroom and in separate computer labs (92% believe computers are needed in both places).
- ◆ They also believe that schools should become more involved in their surrounding communities - 90% support (59% strongly, 31% somewhat) using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities.
- ◆ Unanimously, those surveyed believe that collaboration between architects, engineers, and educators can improve the quality of school design (100% agree). However, only 41% have ever been asked for their input about a design or renovation project. Nearly all (91%), if asked, would be willing to serve in an advisory capacity and would be willing to devote an average of 3.1 hours per week to such an endeavor (3.3 for principals, 3.1 for teachers).
- ◆ Eighty-three percent (83%) of respondents favor using design and construction as an educational tool.

METROPOLITAN NEW YORK AREA

- ◆ The results of our telephone survey indicate that New York educators recognize the importance of school design. Indeed, 98% believe school design is important to creating a good learning environment. They realize that design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve.
- ◆ Overwhelmingly, educators believe that the role of teachers in the classroom has changed in recent years - instead of lecturing, teachers are now facilitators, implementing an interactive, hands-on learning process (a remarkable 95% agree with this assessment, 78% strongly agree).
- ◆ Many New York educators believe that much of the school day is often lost to non-teaching related tasks, such as leaving the classroom to make copies and leading students to and from the restroom.
- ◆ Educators stress that schools must be safe - 96% consider school security an extremely important design element.
- ◆ Classrooms of the future must be flexible and adaptable to changing technologies and teaching methods (87% cite as an extremely important design element) and must be designed to encourage interactive learning (81%).
- ◆ New York educators realize that technology and the development of computer skills are increasingly crucial to education and they strongly feel that computers are needed both in the classroom and in separate computer labs (85% believe computers are needed in both places).
- ◆ They also believe that schools should become more involved in their surrounding communities - 86% support (67% strongly, 19% somewhat) using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities.
- ◆ Almost unanimously, those surveyed believe that collaboration between architects, engineers, and educators can improve the quality of school design (98% agree). However, only 30% have ever been asked for their input about a design or renovation project. Nearly all (90%), if asked, would be willing to serve in an advisory capacity and would be willing to devote an average of 3.8 hours per week to such an endeavor (5.2 for principals, 3.4 for teachers).
- ◆ Eighty-three percent (83%) of respondents favor using design and construction as an educational tool.

METROPOLITAN SAN FRANCISCO AREA

- ◆ The results of our telephone survey indicate that San Francisco educators recognize the importance of school design. Indeed, 95% believe school design is important to creating a good learning environment. They realize that design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve.
- ◆ Overwhelmingly, educators believe that the role of teachers in the classroom has changed in recent years - instead of lecturing, teachers are now facilitators, implementing an interactive, hands-on learning process (a remarkable 95% agree with this assessment, 73% strongly agree).
- ◆ Many San Francisco educators believe that much of the school day is often lost to non-teaching related tasks, such as leaving the classroom to make copies and walking to the office to get or file information.
- ◆ Educators stress that schools must be safe - 95% consider school security an extremely important design element.
- ◆ Classrooms of the future must be designed to encourage interactive learning (88% cite as an extremely important design element) and must be flexible and adaptable to changing technologies and teaching methods (82%).
- ◆ San Francisco educators realize that technology and the development of computer skills are increasingly crucial to education and they strongly feel that computers are needed both in the classroom and in separate computer labs (92% believe computers are needed in both places).
- ◆ They also believe that schools should become more involved in their surrounding communities - 93% support (66% strongly, 27% somewhat) using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities.
- ◆ Almost unanimously, those surveyed believe that collaboration between architects, engineers, and educators can improve the quality of school design (98% agree). However, only 59% have ever been asked for their input about a design or renovation project. Nearly all (88%), if asked, would be willing to serve in an advisory capacity and would be willing to devote an average of 3.3 hours per week to such an endeavor (4.2 for principals, 3.0 for teachers).
- ◆ Seventy-eight percent (78%) of respondents favor using design and construction as an educational tool.

METROPOLITAN SEATTLE AREA

- ◆ The results of our telephone survey indicate that Seattle educators recognize the importance of school design. Indeed, 96% believe school design is important to creating a good learning environment. They realize that design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve.
- ◆ Overwhelmingly, educators believe that the role of teachers in the classroom has changed in recent years - instead of lecturing, teachers are now facilitators, implementing an interactive, hands-on learning process (a remarkable 95% agree with this assessment, 76% strongly agree).
- ◆ Many Seattle educators believe that much of the school day is often lost to non-teaching related tasks, such as leaving the classroom to make copies.
- ◆ Educators stress that schools must be safe - 95% consider school security an extremely important design element.
- ◆ Classrooms of the future must be flexible and adaptable to changing technologies and teaching methods (90% cite as an extremely important design element) and must be designed to encourage interactive learning (85%).
- ◆ Seattle educators realize that technology and the development of computer skills are increasingly crucial to education and they strongly feel that computers are needed both in the classroom and in separate computer labs (84% believe computers are needed in both places).
- ◆ They also believe that schools should become more involved in their surrounding communities - 94% support (77% strongly, 17% somewhat) using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities.
- ◆ Unanimously, those surveyed believe that collaboration between architects, engineers, and educators can improve the quality of school design (100% agree). However, only 61% have ever been asked for their input about a design or renovation project. Nearly all (89%), if asked, would be willing to serve in an advisory capacity and would be willing to devote an average of 3.4 hours per week to such an endeavor (6.4 for principals, 2.6 for teachers).
- ◆ Seventy-seven percent (77%) of respondents favor using design and construction as an educational tool.

SECTION IV: CONCLUSIONS

The results of this study demonstrate that educators across the country realize how important school design is for creating a good learning environment. Though they come from diverse communities and work in a wide variety of settings, nearly all of the teachers and principals included in the study agree that a well-designed school enhances learning. As they look toward the future, educators see tremendous possibilities - new ideas about education and new technologies in the classroom will create exciting opportunities for students and teachers of the 21st century. However, if schools are to be prepared for the next century, new thinking is needed about school design. It is clear that many of the old approaches are outdated and that new models are needed for the dynamic, interactive schools of the future. In the following paragraphs, we present several general conclusions, based on both the focus groups and the phone survey, regarding the qualities educators would like to see in their ideal schools of the 21st century.

Facilitated Learning

Educators agree that the teacher's role in the classroom has changed. Today, teachers are facilitators who encourage learning through a variety of interactive methods. Unfortunately, many schools are still designed to accommodate outdated, lecture-centered models of teaching. Educators insist that 21st century classrooms must be designed with interactive learning in mind and must be flexible enough to accommodate the kind of hands-on learning that educators increasingly favor.

Computers and New Technologies

Computer technology has already revolutionized learning in many classrooms across the country and most educators believe computers will become even more important in the years to come. Educators envision a future in which computers connect students to an almost limitless world of information and knowledge, and some see new technologies, such as distance learning and virtual reality, creating opportunities never imagined by previous generations. In order to take advantage of these opportunities, however, schools will need to be designed with computer use and technology in mind.

THE
HEERY
MILLENNIUM
SCHOOL

HEERY

Educational Fact Sheet

What:	Heery International's Educational Facilities Background
When:	Heery International's first school construction program was in 1968. Heery International began in 1952.
Classrooms & Instruction Space:	More than 35,000 Classrooms/Instructional Space designed and constructed.
Number of Children Affected:	Nearly 1 million K-12 students
\$ in Educational Facility Projects:	More than \$10 Billion
Number of Districts:	More than 120 K-12 districts.
Representative Current Projects:	Seattle Public Schools Dallas Public Schools Wake County (Raleigh, NC) Public Schools New York City School Construction Authority Brooklyn Projects Nashville-Davidson County Public Schools Woodstock (suburban Chicago) Public Schools Charleston County (SC) Public Schools DeKalb County Public Schools and Fulton County Public Schools (Atlanta, Georgia) St. Johns County (Florida) Public Schools Springfield (Massachusetts) Schools Baltimore County Schools

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Heery Educational Fact Sheet
Page Two

Educational Mission:

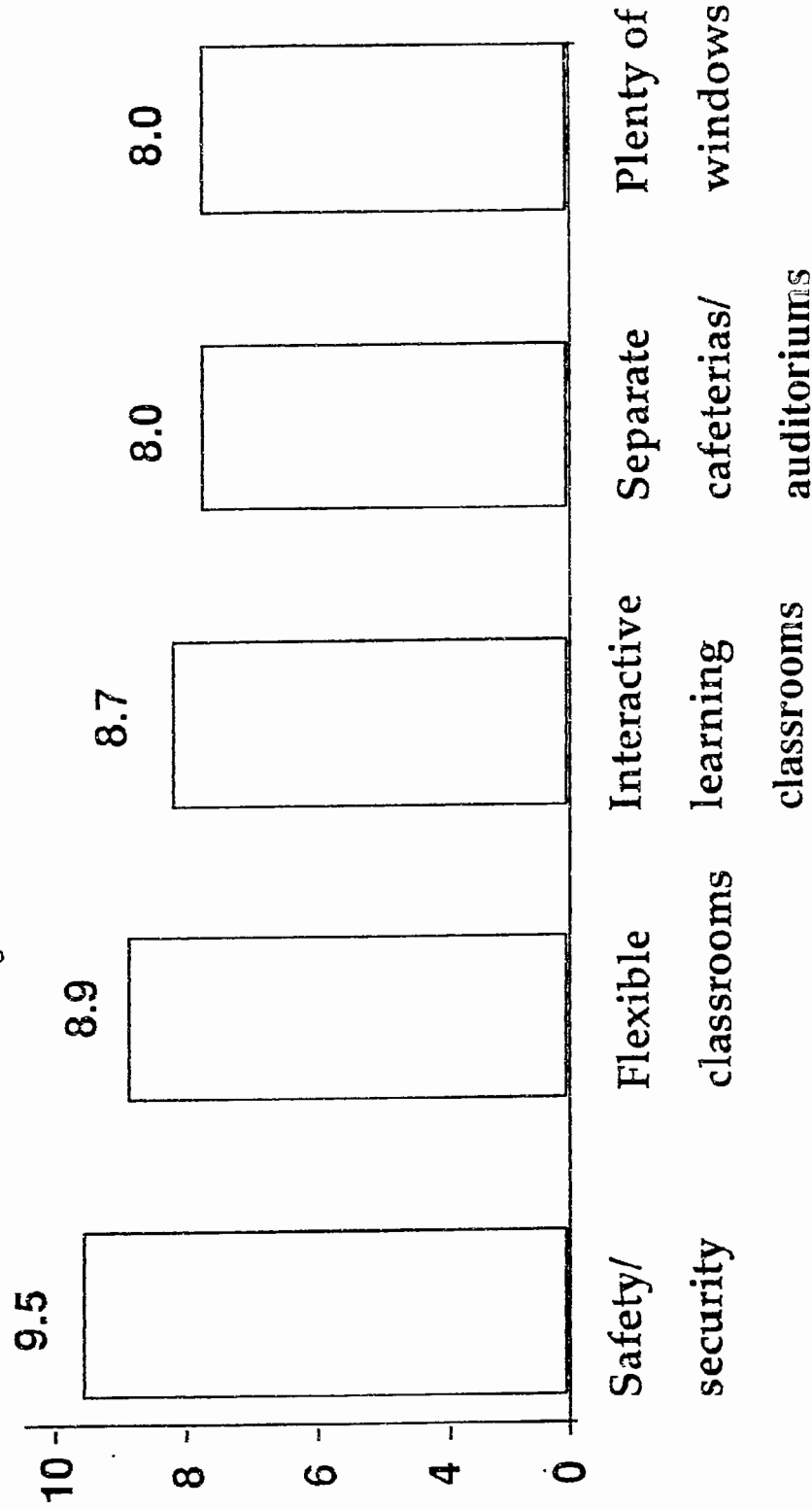
Heery supports its leadership position in managing schools programs with extensive research, including the Heery Millennium School Survey, which surveyed more than 1000 teachers and principals nationwide to explore the link between facilities and learning.

Heery has sponsored student model-building contests in twelve school districts to promote student interest in the design and construction professions, using concepts of math, science, language arts and team building.

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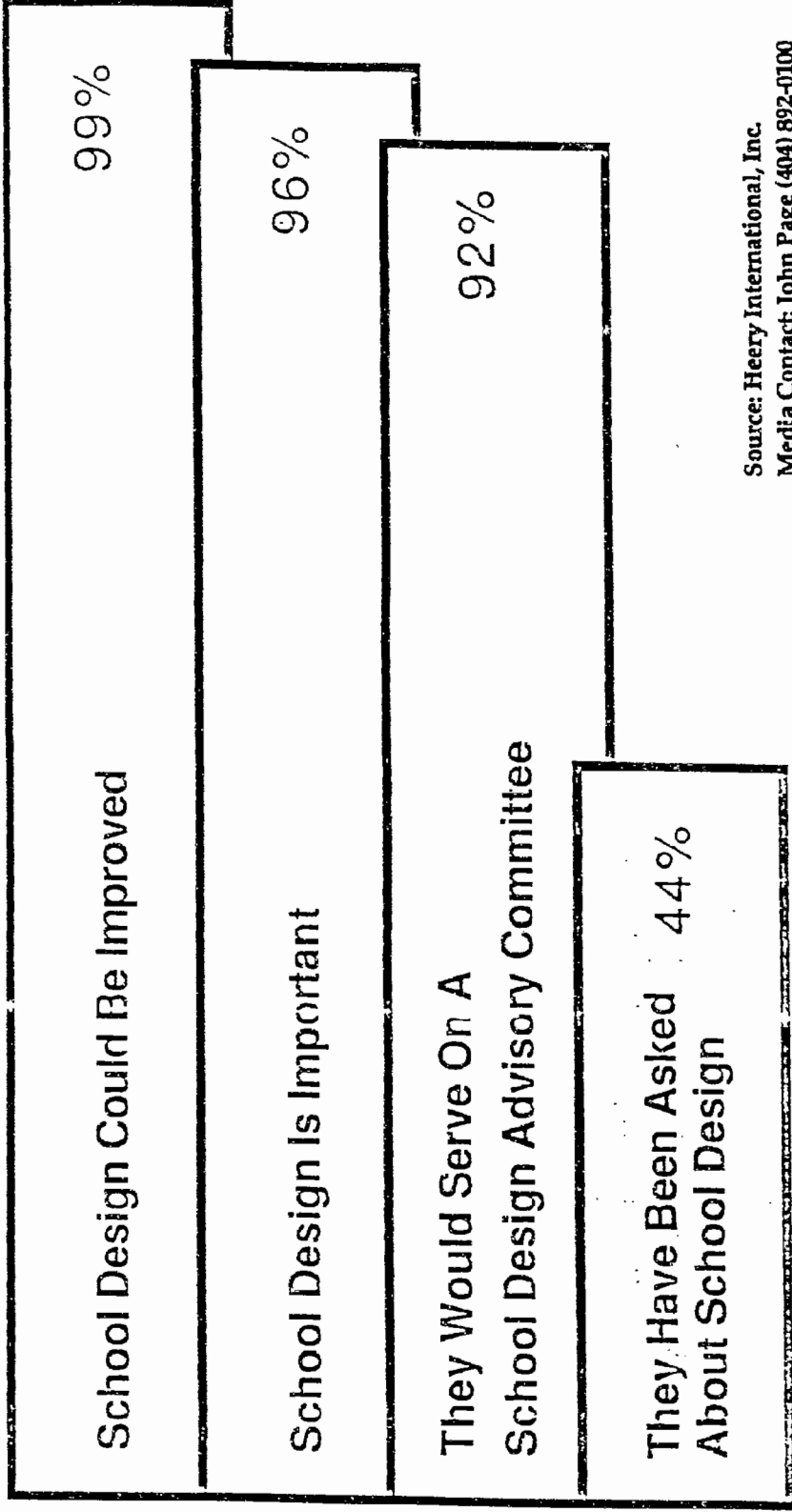
The Heery Millennium School - - What Do Educators Want?

(Design issues rated on a scale of 1 to 10)



What Do Educators Think About School Design?

Educators in a nationwide survey said:



Source: Heery International, Inc.
Media Contact: John Page (404) 892-0100

The Millennium School: What do Educators Want?

Executive Summary

Architecture
Construction Management
Engineering
Graphic Design
Interior Design
Program Management
Strategic Facilities Planning

Atlanta (May) -- What should schools look like in the 21st century? Can architecture serve as a catalyst to spark new, innovative teaching? Boost creativity? Improve learning?

But, is anyone listening to teachers? A majority of them (56%) are never asked for input on this vital issue, even though a significant number (92%) say they would be willing to devote nearly four hours per week collaborating with facility planners on school design.

To find out what schools in the new millennium school should look like, and whether facility experts can help solve education-related problems, Heery International surveyed teachers, principals, and assistant principals nationwide. As new schools continue to be built and older ones renovated, the Heery Millennium School Study provides a model on which to build and improve 21st century education.

The financial implications alone of "getting it right" are enormous: school construction totaled more than \$11 billion in 1997, according to ENR magazine.

Do architecture and design impact learning? Ninety-six percent (96%) of educators strongly believe school design is an important component of a good learning environment. Because of the profound impact, positive or negative, design can have on the learning process, 99% prefer greater collaboration between educators and designers during the design and construction process.

Teacher's roles in the classroom have changed. Although the "sage on the stage," lecture-oriented classroom design from the 1800's still prevails, 99% of teachers surveyed want, and need, flexible, adaptable classrooms that facilitate interactive, hands-on learning. The challenge is especially difficult for school districts undergoing renovations - how should the old facilities be remodeled to deliver the same level of education as new facilities?

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Cookie-cutter design solutions, such as open classrooms, energy-efficient buildings, and centralized controls, actually constrain educators. Multi-purpose cafeteriums - a combination cafeteria and auditorium - are one of the "most hated design features" in schools across the country. Instead, educators want schools with plenty of windows to permit fresh air and natural light (97%), places for students to interact outside the classroom (97%), and a centrally located display area for student art and awards (97%).

The design of the millennium school also can help increase educators' efficiency and effectiveness. According to the survey, teachers lose time each school day on non-teaching related tasks: making copies, going to the office to get records or to use the telephone, and leading students to and from the bathroom. Better access to office equipment and self-contained classrooms with bathrooms, sinks, telephones, and computer links allow teachers to spend more time teaching.

Educators from elementary, middle, and high schools in Atlanta, Cleveland, Dallas, Los Angeles, New York, San Francisco, and Seattle were contacted for the survey. Seventy-three percent (73%) of respondents had spent more than 11 years in education, with most (42%) having 20-plus years experience.

Heery International is an 860-person architecture, interior design, engineering, program management and construction management firm with annual revenues of more than \$150 million. The firm is organized on a regional basis with 30 offices located throughout the United States, Canada, Mexico and Europe. Heery is ranked nationally among the top professional services firms by industry publications such as Engineering-News Record, World Architecture and Building Design & Construction.

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Architecture
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METHODOLOGY

Millennium Schools was commissioned to study attitudes and opinions of public school educators on the relationship, if any, of school facilities to education and learning.

Focus Groups

Initially, focus groups were held with urban and suburban elementary, middle and high school teachers, principals and assistant principals, to identify specific topics for a nationwide telephone survey of educators.

Telephone Survey

The telephone survey was conducted this year and included teachers, principals and assistant principals. Professional interviewers contacted the respondents by phone and conducted approximately 10-minute interviews.

Total sample size for the nationwide telephone survey was 1050, including 150 public school educators from each of seven U.S. metropolitan areas, including:

- Atlanta,
- Cleveland,
- Dallas,
- Los Angeles,
- New York City,
- San Francisco, and
- Seattle.

In each metropolitan area, the sample was equally drawn from both the city and its surrounding suburbs. Elementary school educators comprise just over one-half of the sample, while middle and high school educators comprise just under one-quarter each. Nearly three out of four of the educators surveyed had more than 11 years experience.

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What do educators in ATLANTA think about school design?

Safety and security are on the minds of Atlanta educators - 98% of the education professionals surveyed stress that schools must be safe and believe that design of future schools should address security challenges such as access to school grounds and buildings. All educators in the seven-city survey ranked safety and security as their number one "extremely important" choice in school design elements; only one city (Dallas) topped Atlanta, with 99%.

Atlanta educators come in first in believing school design is vital to creating a good learning environment, an environment that has teachers viewing themselves as having transitioned from "lecturers" to "facilitators," implementing an interactive, hands-on learning process. They are also ready to help facilitate change in the way schools are planned and designed. Nearly all (93%) would be willing to serve in a volunteer "advisory" capacity, willing to donate an average of 4.1 hours per week. This spirit of cooperation and collaboration stands in stark contrast to reality - only a third have ever been asked for input about a design or renovation project.

In addition to being safe and secure, how do Atlanta's educators envision the classrooms of the future? Reflecting their view of education evolving to a "laboratory" for learning, educators desire classrooms designed to be flexible and adaptable to changing technologies and teaching methods, with 89% citing this as an extremely important design element. It should come as no surprise that when educators cite "adaptable to changing technologies" it's closely followed by the word "computers." Atlanta educators believe technology and the development of computer skills are increasingly crucial to learning and they strongly feel computers are needed in both the classroom and in separate computer labs.

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The educators surveyed say that other design elements - sinks, restrooms, and communications capabilities in classrooms - would reduce their time spent on non-teaching tasks and allow them to be more efficient. Overall, Atlanta teachers and principals believe design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve. Schools, say these educators, should be designed to fit teaching needs, not the other way around.

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What do educators in CLEVELAND think about school design?

The classroom of the future for metropolitan Cleveland children must be flexible, adaptable, and conducive to the full integration of technology, according to area educators surveyed. These specific elements are part of the overall view by Cleveland educators that school design plays an important role in creating a good learning environment. The educators realize that design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve.

Like their counterparts in six other large metropolitan areas who participated in the survey, Cleveland's teachers and principals (96%) rank school security as the top design criterion for schools of the future. In fact, none of the interviewed educators in the seven cities rated security lower than 93% (percent agreeing it is an "extremely important" design element).

Beyond ensuring students are safe, Cleveland educators place a high priority on design elements that will reflect their desire for interactive, hands-on learning, implemented in large part by technology. Today's educators are already using technology as an integral part of the learning process - a process in which teachers are evolving from "lecturers" to "facilitators" - and most recognize that the role of technology in the educational setting will only continue to grow in the 21st century. The Cleveland educators surveyed believe computers are needed both in the classroom and in separate computer labs (89%). Educators nationwide cite the need for even small design changes in schoolrooms that could better facilitate technology's rapid integration into learning - more electrical and communication outlets and different classroom furniture.

Flexible, versatile, and adaptable school environments could also meet another

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need the educators feel strongly about - schools should become more involved in their surrounding communities. Eighty-seven percent of Cleveland educators support using schools as community centers that could house social service agencies and provide space for adult education classes and other community activities. Support for a stronger school-community relationship is higher only on the West Coast. Finally, Cleveland educators seek a more collaborative environment for the design of future schools. While only 43% have ever been asked for their input about a design or renovation project (44% average, all cities surveyed), 94% would, if asked, be willing to serve in an advisory capacity to such an endeavor.

The survey was commissioned by Heery International, an 860-person architecture, interior design, engineering, program management and construction management firm with annual revenues of more than \$150 million. The Central Region covers the sixteen states of the south central, north central and Great Lakes areas. Headquartered in Cleveland, the region also includes full-service offices in Houston and Dallas, Texas, Chicago, Illinois, and numerous project offices.

What do educators in DALLAS think about school design?

The newest educational "tool" that teachers and principals in metropolitan Dallas favor is not the latest gadget or gizmo with all the highest-tech bells and whistles. It's as basic as good design and construction - in fact, it is design and construction. Eighty-five percent of Dallas-area teachers and principals who participated in a recent survey of educators from seven large metropolitan areas would like for the design of school facilities to be used as an educational tool, one to enhance and support teaching's evolving nature.

Most educators nationwide believe school design can strongly affect, either positively or negatively, the learning process. In many ways, educators are dissatisfied with their current schools, feeling that too often these structures have been designed without taking into account the changing needs of students and teachers. Like their counterparts nationwide, Dallas educators want schools that are as dynamic as the changing world of education.

School security ranks number one by all educators in the seven cities as an "extremely important" design element, indicating that teachers and principals consider a secure environment an essential "basic." More Dallas educators (99%) rated it tops than any other city, although no city reported less than 93% agreeing. Dallas educators (91%) also outnumber their counterparts in other cities in their views on classrooms that are flexible and adaptable to changing technologies. Dallas educators realize technology and the development of computer skills are increasingly crucial to education and they strongly feel computers are needed both in the classroom and in separate computer labs (89%).

The strong emphasis Dallas educators place on design of schools and classrooms as an educational tool indicates educators recognize the importance of design as a

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means of making them more efficient and effective. Educators consistently cite such "time management" issues as leading students to and from restrooms not located conveniently near classrooms and retrieving information from files in the main office as non-teaching tasks that routinely take them away from time spent teaching their students. Educators in Dallas and other cities believe a collaborative design process that includes input from teachers could help address some of the interrelated design and time management issues. Nearly all (94%) of Dallas educators surveyed would be willing to serve in an advisory capacity for such an endeavor.

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What do educators in NEW YORK think about school design?

It's clear from views expressed by professional educators in seven large metropolitan areas around the nation that teachers believe their role has changed dramatically in recent years. Educators believe teachers are less "lecturers" and more "facilitators," implementing an interactive, hands-on learning process. A remarkable 95% of metropolitan New York teachers hold this view, tying with educators from San Francisco and Seattle for the highest percentage believing this. Unfortunately, many New York educators also believe too much of their school day is spent facilitating non-teaching activities, such as leaving the classroom to make copies and leading students to and from the restroom.

Time management issues such as these are one reason New York educators express the strong view, with 98% agreeing, that school design is important to creating a good learning environment. They also believe design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve towards the interactive, hands-on teaching role many New York teachers now see themselves moving into.

New York educators, like their counterparts nationwide, stress schools must be safe - 96% consider school security an extremely important design element. Beyond this basic "fundamental," New York teachers cite the need for classrooms of the future to be flexible and adaptable to changing technologies and teaching methods, and designed to encourage interactive learning. In other words, New York educators believe schools of the future must be designed to fit teaching needs, not the other way around.

Almost unanimously (98%), those surveyed believe collaboration among architects, engineers, and educators can improve the quality of school design. However, only 30% of New York educators have ever been asked for their input about a design or

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renovation project, a lower percentage than in any other city where educators were interviewed. By comparison, 59% of San Francisco educators and 61% of Seattle educators have had their input on design sought.

Finally, New York educators believe schools should become more involved in their surrounding communities. Eighty-six percent support using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities.

The survey was commissioned by Heery International, an 860-person architecture, interior design, engineering, program management and construction management firm with annual revenues of more than \$150 million. The East Region covers the thirteen states of the Mid-Atlantic, New York and New England area. Headquartered in Baltimore, the region also serves clients from full-service offices in Washington, D.C.; Landover, Maryland; Philadelphia, New York City, and Boston, as well as numerous project offices.

What do educators in LOS ANGELES think about school design?

Educators in California expressed strong views about school design and school-community relationships in a recent survey to determine teachers' and principals' views on the design of schools and classrooms of the future.

The West Coast led the rest of the seven major metropolitan area educators in their strong belief that schools should become more involved in their surrounding communities. In fact, 90% of Los Angeles educators support this view, envisioning schools as community centers that could house social service agencies and provide space for adult education classes and other community activities. That view may not be surprising in a sprawling city of eight million people whose residents, as viewed by educators, might be well served by more places to "connect" with each other through community activities. This view is shared by educators in San Francisco and Seattle (93% and 94%, respectively, favor stronger school-community ties).

Los Angeles educators interviewed also top their counterparts nationwide in embracing technology's role in the future of education. Ninety-two percent believe computers are needed in both the classroom and in separate computer labs, indicating that area educators believe the development of computer skills are increasingly crucial to education and, perhaps, to the school's potential future role as facilitator of more community activities.

Los Angeles educators interviewed feel strongly (94%) that school design is important to creating a good learning environment. They realize design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve. And 100% say that collaboration among architects, engineers, and educators can improve the quality of school design. However, only 41% have ever been asked for their input about a design or renovation project,

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while 91% would be willing to serve in an advisory capacity for such an endeavor.

School security tops the list of design elements that educators in all seven cities cite as "extremely important;" 93% of Los Angeles educators agree. Other key beliefs of the Los Angeles educators are that classrooms of the future must be flexible and adaptable to changing technologies and teaching methods (86%) and must be designed to encourage interactive learning (84%). Los Angeles educators, along with those in New York and Atlanta, hold the strongest view among all the educators surveyed that design and construction of schools should be used as an educational tool, with 83% of respondents favoring this approach.

The survey was commissioned by Heery International, an 860-person architecture, interior design, engineering, program management and construction management firm with annual revenues of more than \$150 million. The West Region covers California, Nevada and Arizona. Headquartered in Sacramento, the region also serves clients from full-service offices in Los Angeles, San Diego and San Francisco as well as numerous project offices.

What do educators in SAN FRANCISCO think about school design?

Single-story, multi-purpose buildings with lots of windows and natural light and a plentiful supply of computers throughout the building - this is what San Francisco-area teachers and principals envision as the ideal school of the future.

Along with educators from six other large metropolitan areas, the San Francisco educators' opinions on the importance of school design were recently surveyed.

Ninety-five percent of San Francisco educators believe school design is important to creating a good learning environment and will become increasingly important in the years to come, as the needs of students and ideas about teaching continue to evolve. Most educators nationwide believe school design can strongly affect, either positively or negatively, the learning process. In many ways, educators are dissatisfied with their current schools, feeling too often these structures have been designed without taking into account the changing needs of students and teachers. Like their counterparts nationwide, San Francisco educators want schools that are as dynamic as the changing world of education.

These educators also want a new, more expanded role for schools in building stronger school-community partnerships. Ninety-three percent of San Francisco teachers and principals support using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities. West Coast educators - in San Francisco, Los Angeles, and Seattle - feel more strongly about this than those in other areas of the country. However, San Francisco educators show no marked difference from those in other cities around the country in their view on the number one "extremely important" design element - school security. Ninety-six percent of educators nationwide hold this view.

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Educators in San Francisco and Seattle are also those who hold the strongest view that the role of teachers in the classroom has changed significantly in recent years - 95% of San Francisco teachers agree with the assessment that teachers are now more "facilitators," implementing an interactive, hands-on learning process, as opposed to being "lecturers." However, San Francisco teachers still believe much of the school day is often lost to non-teaching related tasks, such as leaving the classroom to make copies and retrieving file information from the central office.

Like other educators surveyed, San Francisco teachers would like to have a role in a collaborative design process that might address design issues that could resolve some of these "time management" concerns. San Francisco and Seattle educators are more likely (59% and 61%, respectively) to have had their input sought for a design or renovation project than those in other cities and areas of the country. For example, less than a third of New York City-area educators have. And nearly all (88%) would, if asked, be willing to serve in an advisory capacity and would be willing to devote an average of 3.3 hours per week to such an endeavor.

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What do educators in SEATTLE think about school design?

A near unanimous view by Seattle educators that school design is important to creating a good learning environment is one of the key findings in a recent survey of teachers and principals in seven large metropolitan areas across the country. Ninety-six percent of Seattle educators hold this view and believe design issues will play an increasingly important role in the years to come, as the needs of students and ideas about teaching continue to evolve.

Part of this evolution of the teacher's role includes the view, by Seattle educators, that teachers are now "facilitators," rather than "lecturers," implementing an interactive, hands-on learning process. A remarkable 95% of Seattle educators agree with this assessment. This facilitation role likely explains why Seattle educators also feel strongly about two other things - classrooms of the future must be flexible and adaptable to changing technologies and designed to encourage interactive learning. Seattle educators realize technology and the development of computer skills are increasingly crucial to education and they feel strongly that computers are needed both in the classroom and in separate computer labs. Educators nationwide envision a future in which computers connect students to an almost limitless world of information and knowledge and believe new technologies will create opportunities never imagined by previous generations. In order to take advantage of these opportunities, schools of the future will need to be designed with computer use and technology in mind. However, every school, say the educators, must be designed with the number one "extremely important" design element - school security - in mind. School security is tops for educators in all the seven metropolitan areas; 95% of Seattle educators agree, naming this number one.

Seattle educators hold the strongest view among all educators surveyed that schools should become more involved in their surrounding communities. In fact, 94%

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support using schools as community centers which could house social service agencies and provide space for adult education classes and other community activities. This interest in stronger school-community partnerships is highest among all the West Coast educators (Seattle, San Francisco, Los Angeles) and lowest in Dallas and New York.

Unanimously, Seattle educators surveyed believe collaboration among architects, engineers, and educators can improve the quality of school design. It's clear from their responses these educators feel a collaborative design process could address certain "time management" issues, related to current design and layout of schools, the educators feel take them away from teaching.

Seattle educators are particularly likely to rate leaving the classroom to make copies as the most time-consuming of four non-teaching tasks. Others cited by educators in all cities are: retrieving file information from the central office, leaving the classroom to use the phone, and leading students to and from the restroom. Seattle educators also are those most likely, at 61%, to have been asked for their input about a design or renovation project - less than a third of New York educators have been, for example - and nearly all (89%) would be willing to serve in such an advisory capacity.

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